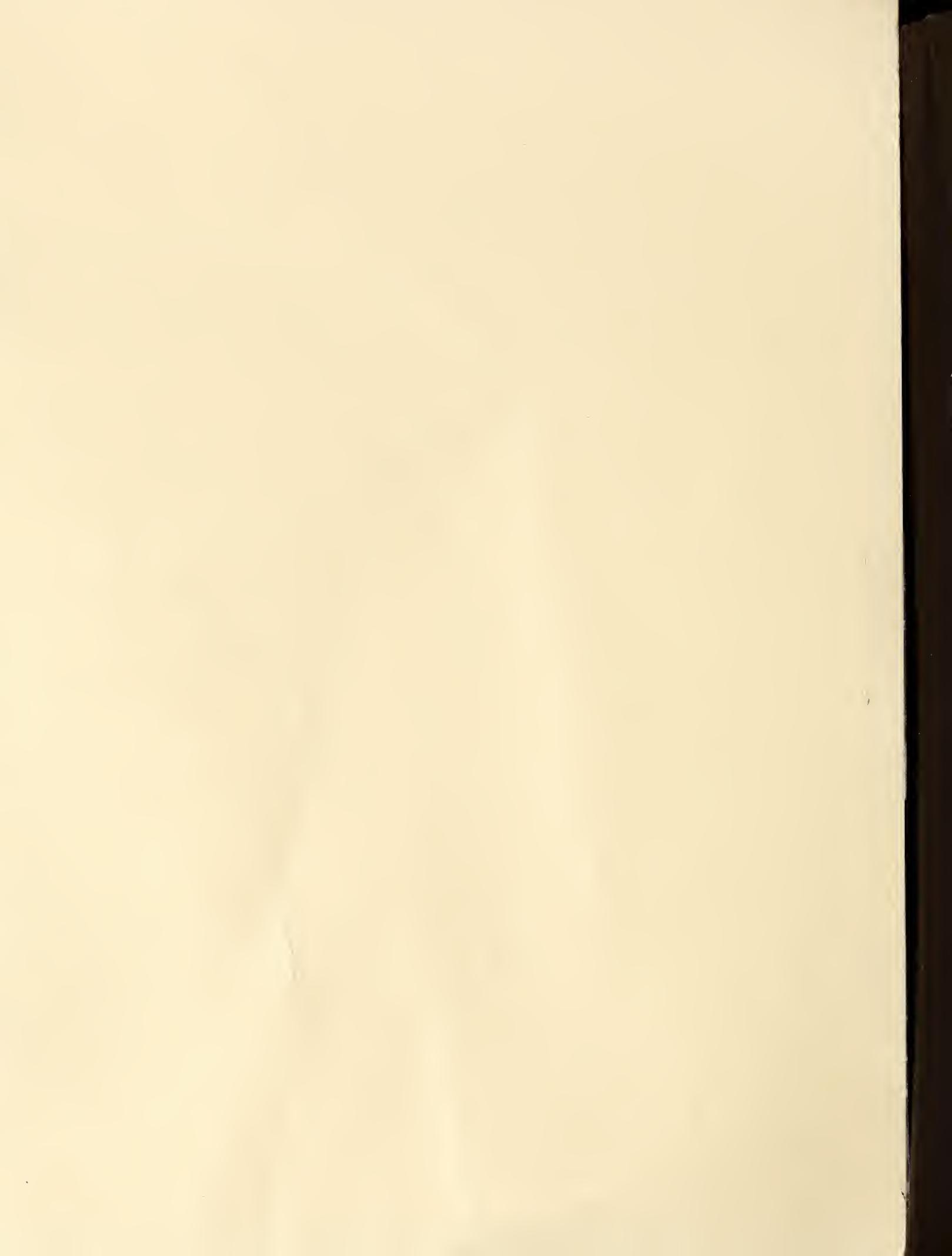


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May, 1958

UNITED STATES DEPARTMENT OF AGRICULTURE
Agricultural Marketing Service

A STUDY OF BUTTER CHARACTERISTICS AND GRADING RESULTS
BASED ON U. S. DEPARTMENT OF AGRICULTURE GRADINGS FOR 1957

The data for this study was compiled from a sampling of fresh bulk (salted) butter graded by the Inspection and Grading Branch, Dairy Division, Agricultural Marketing Service, U. S. Department of Agriculture, during 1957. This data is exclusive of the regradings of Government-owned inventories.

The certificates from which the following data were compiled covered butter graded at grading stations, terminal markets, and shipping points in all principal butter producing states. To obtain a reasonably representative cross section of seasonal quality variations the data were recorded from certificates issued in February, May, August, and November, 1957. Each churning was recorded showing the poundage, flavor characteristics, defects in body, color and salt and final U. S. Grade. A total of 188,299,067 pounds of butter was recorded during those months.

The butter graded by the Department and tabulated in this study is not entirely representative of the quality of all the butter produced in this country. The main reason for this is that a large percentage of the butter submitted for grading by the Department is in the higher quality range.

The summarized information is shown in table form, according to grades.

In Table I you will note that the amount of U. S. Grade AA or U. S. 93 Score butter was 108,348,687 pounds or 57.54 percent of all the butter graded during the months tabulated. About 97 percent of the butter in this grade was given no flavor comment, indicating a fine highly pleasing flavor. Only 3.14 percent was classified as possessing a slight feed flavor or a definite cooked (fine) flavor.

Body defects were noted in 2.78 percent of the butter classified as U. S. Grade AA. Slight leaky was the most prevalent body defect encountered in the butter so classified. This amounted to 1.73 percent, and the highest occurrence was noted in the month of May with 2.15 percent. The body defect next in importance was slight sticky with 0.68 percent, followed by slight short with almost 0.2 percent. Sticky butter was more prevalent in November than in any other period.

No defects were encountered in the other two workmanship factors, namely, color and salt, in the butter classified as U. S. Grade AA.

Also shown in Table I is the amount of butter given a "AA" flavor rating but down-graded because of workmanship defects. While most of this butter was down-graded to U. S. Grade A, a small amount was lowered to U. S. Grade B, because of excess color defect. About 0.3 percent of the butter having a "AA" flavor rating was down-graded to U. S. Grade A because of a definite leaky condition.

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Table II shows the amount of U. S. Grade A or U. S. 92 Score butter, with corresponding comments and percentages for each. U. S. Grade A was assigned to 51,834,141 pounds or 27.53 percent of all butter graded. Of this quantity, 68.5 percent was pleasing and desirable in flavor without particular comment. Of the flavor comments noted for U. S. Grade A butter, slight coarse acid was most frequently noted, representing about 16 percent of the butter so graded. Slight bitter was next with 9.29 percent, followed by definite feed with 4.39 percent.

Workmanship defects were encountered in 6.96 percent of the butter classified as U. S. Grade A. Slight leaky accounted for 3.49 percent, with May gradings showing as high as 4.07 percent. A slight sticky condition was noted in 1.8 percent of all the butter classified as U. S. Grade A, with February showing 4.42 percent and November 3.07 percent. A slight short condition was noted in 0.53 percent of the butter scored U. S. Grade A, with November accounting for 1.07 percent.

No color defects were present in butter classified as U. S. Grade A and only 0.07 percent was noted as having a slight sharp salt condition.

Table II also shows the amount of butter with a flavor rating of "A" down-graded to U. S. Grade B and U. S. Grade C because of workmanship defects. About 0.75 percent of the butter having an "A" flavor rating was down-graded to U. S. Grade B because of a definite leaky condition. Leaky and color defects were responsible for down-grading to U. S. Grade C.

Table III shows that 23,817,614 pounds, or 12.65 percent of the total butter tabulated was U. S. Grade B or U. S. 90 Score. The most striking flavor characteristics noted in this category were: definite old cream, definite coarse acid, slight utensil, slight neutralizer and slight whey, representing 56.5, 17.1, 8.6, 6.8 and 5.2 percent, respectively. You will note that 307,605 pounds or 1.29 percent was without flavor comment. This represents the amount of butter with a "AA" or "A" flavor rating which was down-graded to U. S. Grade B because of excess workmanship defects, previously referred to in Tables I and II.

About 6.5 percent of the butter graded U. S. Grade B showed workmanship defects. Slight leaky, representing 2.89 percent, was the most prevalent workmanship defect. Its occurrence was more uniform in this grade in each of the months, although in November it was almost one percent lower. A slight sticky condition was noted in 0.94 percent of the butter classified as U. S. Grade B, with February showing 1.81 percent.

Table III also shows that 480,045 pounds or 2.02 percent of the butter possessing a "B" flavor rating was down-graded to U. S. Grade C because of various workmanship defects. A definite leaky condition accounted for 1.39 and definite gummy for 0.33 percent.

Table IV shows that 3,880,401 pounds or 2.06 percent of all the butter graded was classified as U. S. Grade C. Definite stale flavor was the most predominant, accounting for 44.12 percent, with definite whey, definite utensil, definite neutralizer, definite weed and slight sour, comprising 14.1, 7.55, 6.43, 3.2 and 3.2 percent, respectively.

About 26.5 percent of the butter classified as U. S. Grade C possessed workmanship defects, which were mainly body defects. Six percent of this butter was found to possess a slight or definite leaky condition, 3.76 percent slight spongy or weak, 2.48 percent slight and definite mealy and 1.15 percent slight and definite sticky.

Color defects amounted to 0.11 percent consisting of slight mottled and slight wavy, and salt defects constituted 0.12 percent, including slight gritty salt and slight sharp salt.

Table V shows 418,224 pounds or 0.22 percent not qualifying for a U. S. Grade and the reason for its classification. Pronounced stale and definite metallic accounted for most of the butter classified as Below Grade.

Table VI is a summary of the poundage and percentages for each grade for each month tabulated and the totals for the year. You will note that 9,258,762 pounds or 4.92 percent of all the butter included in the study was criticized for workmanship defects.

It is important to note that there was slightly over 1.5 million pounds of butter or 0.81 percent lowered one grade or more because of excess workmanship defects.

The data in this study was compiled for the Butter Committee, American Dairy Science Association by the Standardization and Program Development Branch, Dairy Division.

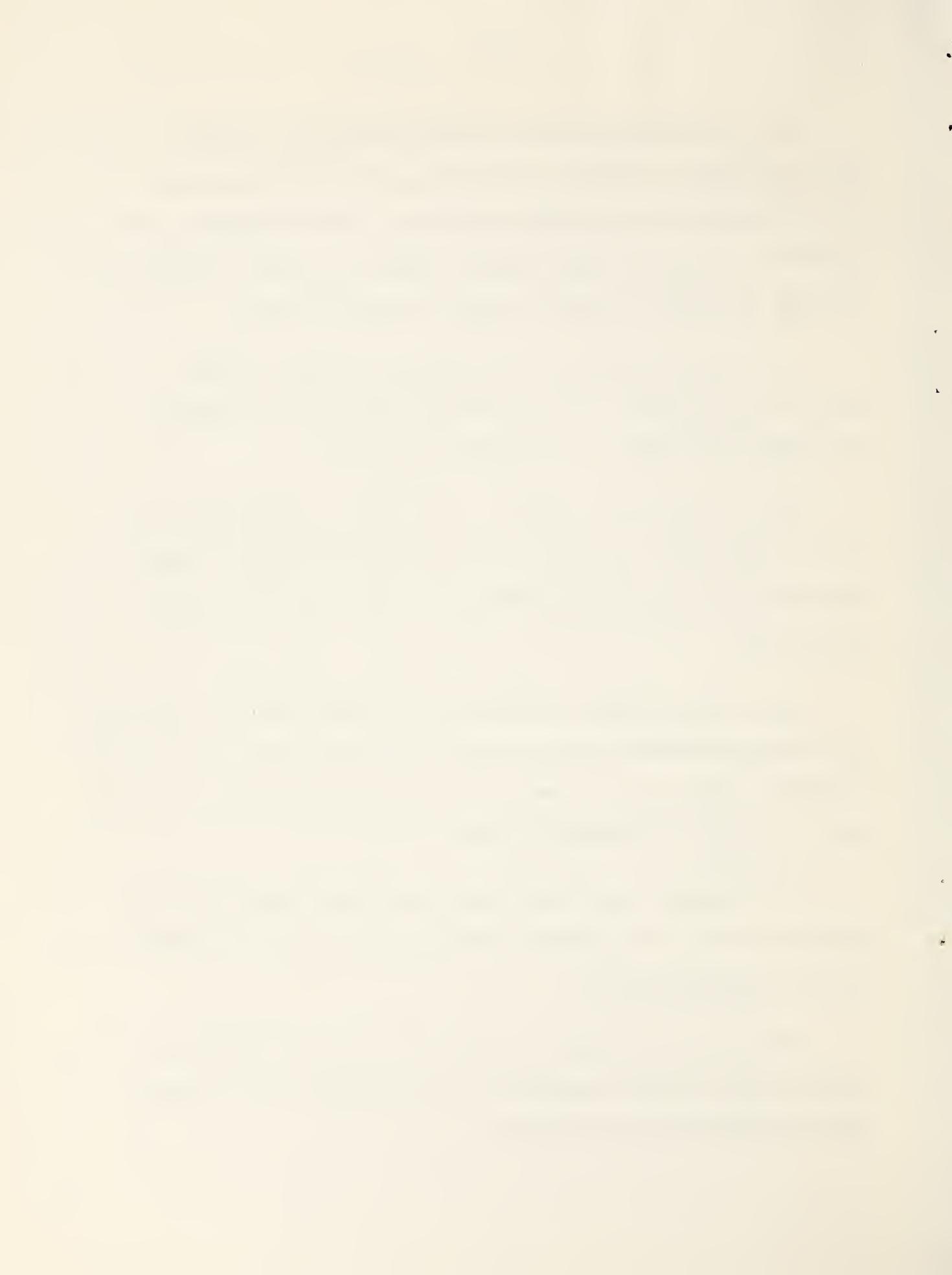


Table I

FRESH BUTTER GRADED BY USDA -- MONTH AND YEAR 1957

U. S. Grade AA or U. S. 93 Score

| Classification | February | | May | | August | | November | | Total for the Year | |
|--|------------|---------|------------|---------|------------|---------|------------|---------|--------------------|---------|
| | Pounds | Percent | Pounds | Percent | Pounds | Percent | Pounds | Percent | Pounds | Percent |
| <u>Flavor</u> | | | | | | | | | | |
| No Comment | 26,927,731 | 95.67 | 37,660,746 | 96.62 | 19,155,204 | 97.84 | 21,200,155 | 97.93 | 104,943,836 | 96.86 |
| Slight Feed | 1,207,422 | .4.29 | 1,310,721 | 3.36 | 418,636 | 2.14 | 445,548 | 2.06 | 3,382,327 | 3.12 |
| Definite Cooked (fine) | 11,004 | .04 | 5,120 | .01 | 4,032 | .02 | 2,368 | .01 | 22,524 | .02 |
| Total | 28,146,157 | 100.00 | 38,976,587 | 100.00 | 19,577,872 | 100.00 | 21,648,071 | 100.00 | 108,348,687 | 100.00 |
| Percent AA of all butter Graded by month and year | | | | | | | | | | |
| Body | 64,53 | | 54,37 | | 50,32 | | 63,51 | | 57.5h | |
| Slight Crumbly | 10,368 | .037 | 31,080 | .080 | 319,202 | 1.631 | 75,290 | .348 | 116,738 | .108 |
| Slight Leaky | 422,409 | 1.501 | 83,870 | 2.150 | 71,272 | .191 | 299,419 | 1.383 | 1,878,980 | 1.734 |
| Slight Short | 14,100 | .050 | 17,540 | .170 | 17,540 | .371 | 52,440 | .242 | 213,352 | .197 |
| Slight Spongy-Weak | 47,936 | .170 | -- | -- | -- | -- | 389,584 | -- | 47,936 | .044 |
| Slight Sticky | 198,633 | .706 | 65,844 | .169 | 87,896 | .449 | 1,800 | .009 | 741,257 | .685 |
| Slight Gummy | -- | -- | 1,800 | .012 | 5,844 | .020 | 4,828 | .022 | 9,628 | .009 |
| Slight Mealy | -- | -- | -- | -- | -- | -- | -- | -- | 3,844 | .004 |
| Color | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Salt | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Total workmanship defects | 693,446 | 2.464 | 1,013,866 | 2.602 | 483,562 | 2.471 | 821,561 | 3.795 | 3,012,435 | 2.781 |
| Percent workmanship defects of all butter Graded by month and year | 1,590 | | 1,414 | | 1,243 | | 2,410 | | 1,600 | |
| AA Flavor Down Graded to U. S. Grade A Due to Excess Workmanship Defects | | | | | | | | | | |
| Body | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Slight Sticky-Leaky | 23,320 | .083 | 20,241 | .516 | 76,308 | .390 | 7,214 | .033 | 23,320 | .022 |
| Definite Gummy | 72,764 | .259 | -- | -- | 62,460 | .319 | -- | -- | 357,527 | .330 |
| Definite Sticky | -- | -- | -- | -- | 7,388 | .038 | 13,248 | .061 | 62,460 | .058 |
| Definite Mealy | -- | -- | -- | -- | -- | -- | 800 | .004 | 29,636 | .019 |
| Color | -- | -- | -- | -- | -- | -- | -- | -- | 800 | .001 |
| Slight Color Specks | 900 | .003 | 1,514 | .012 | -- | -- | -- | -- | 5,444 | .005 |
| Definite Mealy | -- | -- | 2,304 | .006 | -- | -- | -- | -- | 2,304 | .002 |
| Salt | 64,320 | .229 | -- | -- | -- | -- | -- | -- | -- | -- |
| Definite Sharp Salt | 161,304 | .574 | 208,089 | .534 | 146,156 | .747 | 21,262 | .098 | 64,320 | .059 |
| Total | 161,304 | .574 | 208,089 | .534 | 146,156 | .747 | 21,262 | .098 | 536,811 | .496 |
| AA Flavor Down Graded to U. S. Grade B Due to Excess Workmanship Defects | | | | | | | | | | |
| Body | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Color | -- | -- | 2,304 | .006 | -- | -- | -- | -- | 2,304 | .002 |
| Definite Mottled | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Salt | -- | -- | 2,304 | .006 | -- | -- | -- | -- | 2,304 | .002 |
| Total | -- | -- | 2,304 | .006 | -- | -- | -- | -- | 2,304 | .002 |

Prepared by: Standardization and Program Development Branch
Dairy Division, AMS, USA
Washington, D. C. -- May, 1958

FRESH BUTTER GRADED BY USDA -- MONTH AND YEAR 1957
U. S. Grade A or U. S. 92 Score

| Classification | February | | | May | | | August | | | November | | | Total for the Year | |
|---|----------|---------|--------|---------|--------|---------|--------|---------|---------|----------|---------|---------|--------------------|---------|
| | Pounds | Percent | Pounds | Percent | Pounds | Percent | Pounds | Percent | Pounds | Percent | Pounds | Percent | Pounds | Percent |
| <u>Flavor</u> | | | | | | | | | | | | | | |
| *No Comment | 8,392 | 313 | 72.78 | 14,216 | 222 | 66.34 | 7,477 | 138 | 69.50 | 5,437 | 923 | .67.01 | 35,523 | 596 |
| **Slight Feed | 900 | .01 | 60.924 | 8.568 | .28 | .08 | 5,932 | .07 | .76 | 324 | .76 | .68.54 | | |
| Definite Feed | 362 | .98 | 1,605 | 600 | 7.49 | 124.160 | 1.15 | 18.568 | 2.27 | 2,277 | 226 | .439 | | |
| Definite Cooked (coarse) | 1,872 | .07 | 10,496 | .05 | .05 | .63 | 67,688 | .23 | 104.336 | 104.336 | .20 | | | |
| Slight Acid | 99 | .78 | 1,424 | 427 | .62 | .39 | 39,443 | .92 | 74,212 | 355,447 | .65 | | | |
| Slight Bitter | 1,663 | .64 | 1,845 | 678 | 8.61 | 636,139 | .92 | 672,602 | .829 | 4,816 | 683 | .929 | | |
| Slight Coarse Acid | 1,956 | .51 | 3,297 | 663 | 15.39 | 2,387 | .301 | 21.82 | 1,672 | 858 | 20.62 | 8,274 | 363 | |
| Slight Smothered | 958 | .51 | 261 | 856 | 1.22 | .54 | 57,540 | .54 | 1,984 | .02 | .379 | .878 | .15.73 | |
| Slight Flat | -- | -- | -- | -- | -- | -- | -- | -- | 16,088 | .57 | .46,088 | .09 | | |
| Total | 11,530 | 284 | 100.00 | 21,430 | 868 | 100.00 | 10,758 | .282 | 100.00 | 8,114 | .107 | 100.00 | 51,834 | .141 |
| Percent A of all butter graded by month and year | | | | | | | | | | | | | | 100.00 |
| <u>Body</u> | | | | | | | | | | | | | | |
| Slight Leaky | 280 | .987 | 2.437 | 872 | .218 | 4.070 | 43,588 | .844 | 241 | 246 | .2973 | 1,808 | .099 | |
| Slight Mealy | 4,356 | .036 | 1,224 | .020 | .020 | .05 | 1,564 | .05 | -- | -- | 10,144 | .020 | .3488 | |
| Slight Short | -- | -- | 99,776 | .466 | .466 | .005 | 85,816 | .798 | 86,912 | 1.071 | 272,504 | .2400 | .526 | |
| Slight Sponey-Weak | -- | -- | 1,020 | .1380 | .005 | .013 | -- | -- | 249,386 | 3.073 | 937,447 | .1809 | .005 | |
| Slight Sticky | 509 | .340 | 1,721 | .834 | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| <u>Color</u> | | | | | | | | | | | | | | |
| Slight Salt | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Slight Sharp Salt | -- | -- | 34,200 | .160 | 2,304 | .021 | -- | -- | -- | -- | -- | 36,504 | .070 | |
| Total | 794 | 683 | 6,892 | 1,190 | .219 | 5,555 | 504 | .652 | 4,691 | 577 | .514 | 7,117 | 3,067 | .098 |
| AA flavor down-graded to Grade A | 163 | .304 | 1.40 | 208 | .089 | .97 | 146 | .156 | 1.36 | 21 | .262 | .26 | 536 | .011 |
| Total workmanship defects | 955 | .987 | 8,292 | 1,398 | .308 | 6,525 | 650 | .808 | 6,051 | 598 | .806 | 7,377 | 3,603 | .099 |
| Percent workmanship defects of all butter graded by month and year | | | | | | | | | | | | | | 6.958 |
| A Flavor Down Graded to U. S. Grade B Due to Excess Workmanship Defects | | | | | | | | | | | | | | |
| <u>Body</u> | | | | | | | | | | | | | | |
| Definite Leaky | b1 | .315 | .358 | 140 | .137 | .654 | 175 | .438 | 1.631 | 38,820 | .478 | .395 | .710 | .763 |
| Definite Crumbly | -- | 1,105 | .010 | -- | -- | -- | -- | -- | -- | -- | -- | 1,105 | .002 | |
| Slight Leaky-Sticky | -- | 29 | .692 | 258 | 1,020 | .005 | 4,376 | .041 | -- | -- | -- | 30,712 | .059 | |
| Definite Mealy | -- | -- | 4,376 | .020 | -- | -- | -- | -- | -- | -- | -- | 8,152 | .017 | |
| Slight Leaky-Crumbly | -- | 2 | .312 | -- | -- | -- | 2,100 | .020 | -- | -- | -- | 2,312 | .004 | |
| Definite Spongy-Weak | -- | -- | 14 | .404 | .125 | -- | 2,940 | .027 | -- | -- | -- | 2,100 | .004 | |
| Definite Sticky | -- | -- | -- | 12,000 | .020 | -- | -- | -- | 1,728 | .021 | -- | 17,344 | .033 | |
| Slight Ragged-Boring | -- | -- | -- | 12,000 | .056 | -- | -- | -- | -- | -- | -- | 5,952 | .011 | |
| Definite Gummy | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 12,000 | .023 | |
| Slight Mottled | -- | -- | 1,071 | .005 | 4,494 | .042 | -- | -- | 1,600 | .020 | -- | 7,165 | .014 | |
| Slight Color Specks | b1 | .643 | .042 | 5,922 | .028 | -- | -- | -- | -- | -- | -- | 10,795 | .021 | |
| Slight Salt | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1,140 | .002 | |
| Total | 93 | .671 | 0.813 | 163 | .780 | 0.788 | 190 | .188 | 1.771 | 42,148 | .0519 | 495,087 | .953 | |
| A Flavor Down Graded to U. S. Grade C Due to Excess Workmanship Defects | | | | | | | | | | | | | | |
| <u>Body</u> | | | | | | | | | | | | | | |
| Definite Leaky-Weak | -- | 2,448 | .021 | -- | -- | -- | 704 | .007 | -- | -- | -- | 3,152 | .006 | |
| Definite Leaky-Sticky | -- | -- | -- | 1,224 | .006 | .014 | 780 | .007 | -- | 768 | .009 | 2,768 | .001 | |
| Definite Leaky-Slight Mottled | -- | -- | 3,008 | .014 | -- | -- | -- | -- | -- | -- | -- | 2,004 | .004 | |
| Definite Leaky-Color Specks | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 3,008 | .006 | |
| Definite Mottled | -- | -- | -- | 1,224 | .006 | .014 | 780 | .007 | -- | -- | -- | 2,929 | .006 | |
| Slight Mottled-Definite Leaky | -- | -- | 3,008 | .014 | -- | -- | -- | -- | -- | -- | -- | 2,304 | .004 | |
| Definite Color Specks-Leaky | -- | 2,448 | .021 | 4,232 | .020 | .020 | 4,413 | .041 | .021 | 768 | .009 | 11,861 | .023 | |

*Includes butter with AA flavor rating down-graded because of excess workmanship defects.

**Butter of this flavor rating down-graded because of excess workmanship defects.

***Body and color combination defects included only once in total.

Prepared by: Standardization and Program Development Branch
Dairy Division, AMS, USDA
Washington, D. C. -- May, 1958

Table III
FRESH BUTTER GRADED BY USDA -- MONTH AND YEAR 1957
U. S. Grade B or U. S. 90 Score

| Classification | February | | | May | | | August | | | November | | | Total for the Year | |
|--|-----------|---------|-----------|---------|-----------|---------|-----------|---------|------------|----------|--------|---------|--------------------|---------|
| | Pounds | Percent | Pounds | Percent | Pounds | Percent | Pounds | Percent | Pounds | Percent | Pounds | Percent | Pounds | Percent |
| <u>Flavor</u> | | | | | | | | | | | | | | |
| *No Comment (A or AA) | 63,491 | 1.72 | 98,236 | 1.00 | 122,902 | 1.89 | 22,896 | .60 | 307,605 | 1.29 | | | | |
| *Slight Feed (AA) | 2,992 | .08 | -- | .04 | -- | -- | -- | -- | 2,992 | .01 | | | | |
| *Definite Feed (A) | -- | -- | 4,032 | .04 | -- | -- | -- | -- | 4,032 | .01 | | | | |
| *Slight Acid (A) | -- | -- | 25,500 | .26 | -- | -- | -- | -- | 25,500 | .11 | | | | |
| Definite Acid | 2,496 | .07 | 1,152 | .01 | -- | -- | -- | -- | 3,712 | .01 | | | | |
| *Slight Bitter (A) | 19,832 | .54 | 13,252 | .13 | 4,988 | .08 | 4,828 | .13 | 14,840 | .18 | | | | |
| Definite Bitter (A) | 99,773 | .70 | 28,883 | .29 | 27,032 | .42 | 43,306 | .14 | 186,997 | .64 | | | | |
| *Slight Coarse Acid (A) | 4,988 | .14 | 30,064 | .31 | 62,578 | .96 | 14,424 | .38 | 112,054 | .47 | | | | |
| Definite Coarse Acid | 689 | .64 | 1,519,081 | .15 | 1,251,426 | .17 | 7,847 | .22 | 4,777,197 | .17 | | | | |
| Slight Neutralizer | 83,336 | .25 | 935,900 | .93 | 510,017 | .50 | 123,674 | .36 | 1,632,987 | .68 | | | | |
| Slight Scorched | 8,622 | .23 | 36,346 | .37 | 12,932 | .18 | 2,838 | .08 | 59,832 | .25 | | | | |
| Slight Unburned | 43,153 | .11 | 321,250 | .37 | 318,825 | .49 | 318,825 | .41 | 2,050,744 | .86 | | | | |
| Slight Whey | 282,740 | .74 | 9,956 | .01 | 326,250 | .44 | 166,717 | .45 | 1,255,405 | .51 | | | | |
| Definite Old Cream | 1,992,674 | .53 | 501,616 | .54 | 286,332 | .34 | 63,19 | .13 | 4,492,120 | .56 | | | | |
| *Slight Smoother (A) | 2,368 | .06 | 5,365,645 | .63 | 3,699,971 | .56 | 87 | .02 | 2,368 | .01 | | | | |
| Definite Smoothered | 10,824 | .29 | 19,304 | .20 | -- | -- | -- | -- | 65,780 | .28 | | | | |
| Slight Muddy | 1,248 | .11 | 102,700 | .05 | 160,720 | .25 | 8,124 | .22 | 275,792 | .16 | | | | |
| Slight Weedy | -- | -- | 182,457 | .11 | 1,866 | .19 | 12,356 | .19 | 72,844 | .12 | | | | |
| Total | 3,701,564 | 100.00 | 9,821,639 | 100.00 | 6,504,396 | 100.00 | 3,792,105 | 100.00 | 23,827,614 | 100.00 | | | | |
| Percent B of all butter graded by month and year | | | 8.49 | | 13.71 | | 16.72 | | 11.12 | | | | 12.649 | |
| <u>Body</u> | | | | | | | | | | | | | | |
| Slight Leaky | 122,192 | 3.301 | 290,804 | 2.961 | 196,448 | 3.020 | 79,875 | 2.107 | 669,289 | 2.994 | | | | |
| Slight Mealy | 3,312 | .089 | 23,624 | .241 | 30,548 | .470 | 5,750 | .153 | 63,300 | .266 | | | | |
| Slight Short | -- | -- | -- | -- | -- | -- | -- | -- | 33,916 | .143 | | | | |
| Slight Spongy-Weak | -- | -- | -- | -- | -- | -- | -- | -- | 33,560 | .143 | | | | |
| Slight Sticky | 65,874 | 1.807 | 88,164 | .898 | 51,292 | .789 | 1,358 | .058 | 233,722 | .932 | | | | |
| <u>Color</u> | | | 64 | .002 | -- | -- | -- | -- | -- | -- | | | 64 | .000 |
| <u>Slight Color Specks</u> | | | -- | -- | -- | -- | -- | -- | -- | -- | | | -- | -- |
| <u>Salt</u> | | | -- | -- | -- | -- | -- | -- | -- | -- | | | -- | -- |
| Total | 192,442 | 5.199 | 402,592 | 4.100 | 298,382 | 4.588 | 181,757 | 4.796 | 1,075,173 | 4.514 | | | | |
| <u>AA and A flavor down-graded to Grade B</u> | 93,671 | 2.53 | 171,084 | 1.74 | 190,468 | 2.93 | 42,148 | 1.11 | 497,391 | 2.094 | | | | |
| Total workmanship defects | 286,113 | 7.129 | 573,676 | 5.840 | 488,870 | 7.518 | 233,905 | 5.906 | 1,572,564 | 6.608 | | | | |
| Percent workmanship defects of all butter graded by month and year | | 0.656 | -- | 0.801 | -- | 1.257 | -- | 0.657 | 0.835 | | | | | |
| <u>B FLAVOR Down Graded to U. S. Grade C Due to Excess Workmanship Defects</u> | | | | | | | | | | | | | | |
| <u>Body</u> | | | | | | | | | | | | | | |
| Definite Leaky | 13,782 | .372 | 159,850 | 1.638 | 121,419 | 1.667 | 36,669 | .968 | 331,740 | 1.393 | | | | |
| Definite Mealy | 700 | .019 | 4,672 | .048 | 1,792 | .028 | 1,040 | .027 | 8,204 | .034 | | | | |
| Definite Gummy | -- | -- | 12,000 | .122 | 66,387 | .121 | -- | -- | 76,387 | .359 | | | | |
| Definite Sticky | 6,034 | .163 | 512 | .005 | 6,136 | .094 | 3,378 | .089 | 16,060 | .067 | | | | |
| Definite Spongy-Weak | -- | -- | -- | -- | 704 | .011 | -- | -- | 704 | .003 | | | | |
| Slight Leaky-Mealy | 2,116 | .059 | 2,038 | .021 | -- | -- | -- | -- | 4,214 | .018 | | | | |
| Slight Gummy | -- | -- | -- | -- | -- | -- | 1,800 | .028 | -- | -- | | | 1,800 | .008 |
| <u>Color</u> | | | | | | | 2,304 | .035 | -- | -- | | | 2,304 | .010 |
| Slight Mottled | -- | -- | -- | -- | -- | -- | -- | -- | 1,600 | .042 | | | 1,600 | .007 |
| Definite Mottled | 1,024 | .026 | -- | -- | -- | -- | 1,344 | .021 | -- | -- | | | 2,368 | .003 |
| Slight Streaked | -- | -- | -- | -- | -- | -- | 750 | .012 | -- | -- | | | 760 | .003 |
| <u>Salt</u> | | | | | | | | | | | | | | |
| Slight Gritty Salt | -- | -- | 31,424 | .320 | -- | -- | -- | -- | -- | -- | | | 31,424 | .132 |
| Definite Sharp Salt | -- | -- | -- | -- | 480 | .007 | -- | -- | -- | -- | | | 480 | .002 |
| Total | 23,726 | 0.641 | 210,496 | 2.144 | 203,126 | 3.124 | 42,707 | 1.126 | 460,045 | 2.016 | | | | |

*Butter of this flavor rating down-graded because of excess workmanship defects.

Prepared by: Standardization and Program Development Branch
Dairy Division, AMS, USDA
Washington, D. C. -- May, 1958

Table IV
FRESH BUTTER GRADED BY USDA -- MONTH AND YEAR 1937
U. S. Grade C or U. S. 69 Score

| Classification | February | | May | | August | | November | | Total for the Year | |
|--|----------|---------|-----------|-----------|-----------|---------|----------|-----------|--------------------|---------|
| | Pounds | Percent | Pounds | Percent | Pounds | Percent | Pounds | Percent | Pounds | Percent |
| <u>Flavor</u> | | | | | | | | | | |
| *No Comment (A) | -- | -- | 1,224 | .10 | 2,929 | .15 | 768 | .17 | 4,921 | .13 |
| *Slight Aged (A) | -- | -- | 3,008 | .24 | -- | -- | -- | -- | 3,008 | .06 |
| *Slight Bitter (A) | 2,448 | 1.10 | -- | -- | 704 | .03 | -- | -- | 3,152 | .06 |
| *Definite Bitter (B) | -- | -- | -- | -- | 2,240 | .11 | -- | -- | 2,240 | .06 |
| *Definite Coarse Acid (A) | -- | -- | 28,894 | 2.26 | 30,984 | .04 | -- | -- | 780 | .02 |
| *Definite Coarse Acid (B) | -- | -- | 17,900 | 1.41 | 4,774 | 1.60 | 2,944 | .67 | 70,890 | .183 |
| *Slight Neutralizer (B) | 8,078 | 3.62 | -- | -- | 130,794 | .05 | 3,000 | .62 | 25,054 | .64 |
| Definite Neutralizer | 7,444 | 3.34 | 90,053 | 7.04 | -- | -- | 21,312 | .48 | 219,603 | .643 |
| *Slight Scorched (B) | -- | -- | 600 | .05 | -- | -- | 896 | .20 | 1,496 | .04 |
| Definite Scorched | -- | -- | -- | -- | 1,840 | .14 | -- | -- | 7,216 | .18 |
| *Slight Utensil (B) | 1448 | .20 | 25,232 | 1.19 | 5,376 | .26 | -- | -- | 30,965 | .777 |
| Definite Utensil | 50,403 | 22.59 | 98,648 | 7.72 | 117,273 | .64 | 26,510 | .607 | 292,834 | .755 |
| *Slight Whey (B) | -- | -- | 15,184 | 1.19 | 78,515 | .04 | 7,904 | .81 | 101,583 | .242 |
| Definite Old Cream (B) | 25,592 | 11.47 | 180,305 | 14.11 | 250,846 | .12 | 91,814 | .92 | 548,557 | .1414 |
| Slight Metallic | 15,190 | 6.81 | 130,450 | 10.21 | 78,217 | .03 | 22,418 | .21 | 216,285 | .635 |
| Definite Stale | 17,562 | 7.74 | 58,002 | 4.54 | 12,959 | .02 | 12,855 | .12 | 103,610 | .267 |
| 83,160 | 37.27 | 42,617 | 33.47 | 1,066,822 | 51.93 | 137,488 | 31.46 | 1,712,025 | 44.12 | |
| *Slight Weed (B) | -- | -- | 1,472 | .12 | -- | -- | -- | -- | 1,472 | .04 |
| Definite Weed | 4,096 | 1.84 | 100,372 | 7.85 | 4,220 | .21 | 15,421 | .353 | 124,109 | .320 |
| Slight Onion | -- | -- | 12,456 | .97 | -- | -- | 13,352 | .308 | 25,808 | .666 |
| Slight Sour | 1,664 | .74 | 41,236 | 3.16 | 45,124 | .24 | 32,704 | .749 | 124,028 | .320 |
| *Slight Musty (B) | 5,687 | 2.55 | 9,242 | .72 | 42,996 | .21 | 6,541 | .150 | 63,966 | 1.65 |
| Definite Musty | -- | -- | 704 | .05 | 256 | .01 | -- | -- | 61,085 | .02 |
| Slight Yeasty | -- | -- | 12,048 | .95 | 46,997 | .25 | -- | -- | 1,216 | .157 |
| Slight Oily | 1,640 | .73 | 1,216 | .09 | -- | -- | 7,822 | .179 | 12,300 | .32 |
| Slight Barny | -- | -- | 1,056 | .06 | 1,792 | .09 | -- | -- | 28,000 | .72 |
| Slight Cheesy | -- | -- | 28,000 | 2.19 | -- | -- | 28,036 | .642 | 34,128 | .88 |
| Total | 223,112 | 100.00 | 1,278,199 | 100.00 | 1,942,248 | 100.00 | 436,882 | 100.00 | 3,886,401 | 100.00 |
| Percent C of all butter graded by month and year | 0.512 | | 1.783 | | 4,992 | | | 1.282 | | 2.061 |
| <u>Body</u> | | | | | | | | | | |
| Slight Leaky | 6,379 | 2.859 | 32,883 | 2.573 | 36,814 | 1.895 | 32,909 | 7.533 | 108,985 | 2.809 |
| Definite Leaky | 2,176 | .975 | 33,645 | 2,632 | 71,817 | 3,698 | 17,568 | 4,028 | 125,206 | 3.227 |
| Slight Mealy | -- | -- | 3,888 | .304 | 32,347 | 1.655 | 16,668 | 3,678 | 52,303 | 1.348 |
| Definite Mealy | 2,160 | .968 | 9,000 | 7.04 | 32,868 | 1.692 | -- | -- | 14,028 | 1.135 |
| Slight Sticky | 9,280 | 4.159 | 8,527 | .667 | 5,969 | .307 | 6,370 | 20,116 | 11,492 | .777 |
| Definite Sticky | -- | -- | 512 | .040 | 2,562 | .12 | 11,488 | 2,614 | 146,033 | .373 |
| Slight Spongy-Weak | -- | -- | -- | -- | 129,113 | 6,663 | 16,620 | 3,805 | 2,304 | .763 |
| Definite Short | -- | -- | -- | -- | 2,304 | .119 | -- | 2,832 | .648 | .059 |
| Slight Mottled | -- | -- | -- | -- | 1,600 | .082 | 1,235 | .283 | 2,835 | .073 |
| Slight Wavy | -- | -- | -- | -- | -- | -- | 1,472 | .337 | 1,472 | .038 |
| Slight Gritty Salt | -- | -- | 3,456 | .270 | 1,216 | .063 | -- | -- | 3,456 | .089 |
| Slight Sharp Salt | -- | -- | -- | -- | -- | -- | -- | -- | 3,216 | .021 |
| Total | 19,995 | 8,961 | 91,911 | 7.190 | 316,910 | 16,316 | 106,492 | 24,378 | 535,308 | 13.795 |
| A and B flavor down-graded to Grade C | 26,164 | 11.73 | 214,728 | 16.80 | 207,539 | 31.89 | 43,475 | 7.26 | 491,906 | 12.677 |
| Total workmanship defects | 46,159 | 20,691 | 306,659 | 23.990 | 524,1449 | 47,206 | 149,967 | 31.638 | 1,027,214 | 26.472 |
| Percent workmanship defects of all butter graded by month and year | 0.106 | | -- | 0.128 | -- | 1.348 | 0.140 | | 0.546 | |

*Butter of this flavor rating down-graded because of excess workmanship defects.

Prepared by: Standardization and Program Development Branch
Dairy Division, AMS, USDA
Washington, D. C. -- May, 1938

Table V

FRESH BUTTER GRADED BY USDA -- MONTH AND YEAR 1957

Below U. S. Grade

| Classification | February | | | May | | | August | | | November | | | Total for the Year | | |
|---|----------|---------|---------|---------|---------|---------|--------|---------|---------|----------|--------|---------|--------------------|---------|--|
| | Pounds | Percent | Pounds | Percent | Pounds | Percent | Pounds | Percent | Pounds | Percent | Pounds | Percent | Pounds | Percent | |
| <u>Flavor</u> | | | | | | | | | | | | | | | |
| Definite Metallic | 8,580 | 48.79 | 18,874 | 10.51 | 16,136 | 13.12 | 5,888 | 6.00 | 49,478 | 11.83 | 1,440 | .34 | | | |
| Pronounced Metallic | -- | -- | 1,440 | .80 | 74,04 | -- | 75,56 | -- | 312,326 | 74.68 | | | | | |
| Pronounced Steele | 5,310 | 30.19 | 132,985 | -- | 92,993 | .88 | 81,128 | .82 | 74,74 | .1088 | | | | | |
| Pronounced Whey | -- | -- | -- | -- | 1,000 | -- | -- | -- | | | | | | | |
| Definite Sour | -- | -- | 5,656 | 3.15 | 3,300 | .24 | -- | -- | | | | | | | |
| Pronounced Sour | -- | -- | -- | -- | 5,824 | 4.74 | -- | -- | | | | | | | |
| Definite Cheesy | 1,008 | 5.73 | 5,664 | 3.15 | -- | -- | 1,600 | 1.63 | | | | | | | |
| Definite Fruity | -- | -- | 2,860 | 1.59 | 1,190 | .97 | -- | -- | | | | | | | |
| Pronounced Musty | -- | -- | 3,000 | 1.67 | -- | -- | -- | -- | | | | | | | |
| Pronounced Weed | -- | -- | -- | -- | 180 | .14 | -- | -- | | | | | | | |
| Definite Onion | -- | -- | -- | -- | 2,772 | 2.25 | -- | -- | | | | | | | |
| Pronounced Onion | -- | -- | -- | -- | -- | -- | 1,320 | 1.35 | | | | | | | |
| Definite Party | -- | -- | 1,680 | .93 | -- | -- | -- | -- | | | | | | | |
| Definite Onoxious Weed | -- | -- | -- | -- | -- | -- | -- | -- | | | | | | | |
| Pronounced Woody | -- | -- | -- | -- | -- | -- | -- | -- | | | | | | | |
| Rancid | 576 | .32 | 2,048 | 1.67 | -- | -- | -- | -- | | | | | | | |
| Chemical | 1,280 | 7.28 | 6,890 | 3.84 | 528 | .43 | -- | -- | | | | | | | |
| Sand and Rust | 1,408 | 8.01 | -- | -- | -- | -- | -- | -- | | | | | | | |
| Total | 17,586 | 100.00 | 179,625 | 100.00 | 122,961 | 100.00 | 98,052 | 100.00 | 418,224 | 100.00 | | | | | |
| Percent below Grade of all butter graded by month and year | 0.040 | 0.251 | 0.316 | 0.288 | | | | | | | | | | 0.222 | |
| <u>Body</u> | | | | | | | | | | | | | | | |
| Slight Leaky | -- | -- | 2,944 | 1.69 | 2,707 | 2,202 | 2,040 | 2.089 | 7,691 | 1.839 | | | | | |
| Definite Leaky | -- | -- | 8,706 | 4.847 | 4,347 | 5,162 | 5,139 | 5,241 | 20,192 | 4.928 | | | | | |
| Slight Mealy | -- | -- | -- | -- | 1,084 | .882 | -- | -- | | | | | | | |
| Definite Mealy | -- | -- | -- | -- | 700 | .569 | -- | -- | | | | | | | |
| Slight Sponge-Weak | -- | -- | -- | -- | 1,320 | 1.074 | 1,440 | 1.469 | 700 | .167 | | | | | |
| Slight Sticky | 1,008 | 5.732 | -- | -- | 6,569 | 5,359 | -- | -- | 2,760 | .660 | | | | | |
| Slight Ragged Boring | -- | -- | -- | -- | -- | -- | 2,496 | 2,546 | 15,597 | 1.816 | | | | | |
| Color | -- | -- | -- | -- | -- | -- | -- | -- | 2,496 | .597 | | | | | |
| Definite Mottled | -- | -- | -- | -- | -- | -- | 120 | .98 | -- | -- | 120 | .022 | | | |
| Salt | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Total workmanship defects | 1,008 | 5.732 | 11,650 | 6.486 | 18,867 | 15,346 | 11,115 | 11,345 | 42,640 | 10.166 | | | | | |
| Percent workmanship defects of all butter graded by month and year | 0.002 | 0.01 | 0.01 | 0.048 | 0.033 | 0.033 | 0.033 | 0.033 | 0.023 | 0.023 | | | | | |

Prepared by: Standardization and Program Development Branch
 Dairy Division, AMS, USDA
 Washington, D. C. -- May, 1958

Table VI
SUMMARY

FRESH BUTTER BY GRADE, MONTH AND YEAR -- 1957

| Classification | February | | May | | August | | November | | Total for the Year | |
|--------------------------|------------|---------------------------|------------|---------------------------|------------|---------------------------|------------|---------------------------|--------------------|---------------------------|
| | Pounds | Percent all butter graded | Pounds | Percent all butter graded |
| U. S. Grade AA | 28,146,157 | 64.53 | 38,976,587 | 54.37 | 19,577,872 | 50.32 | 21,648,071 | 63.51 | 108,348,687 | 57.54 |
| U. S. Grade A | 11,530,284 | 26.43 | 21,430,868 | 29.90 | 10,758,282 | 27.65 | 8,114,707 | 23.81 | 51,834,141 | 27.53 |
| U. S. Grade B | 3,701,564 | 8.49 | 9,821,639 | 13.71 | 6,504,306 | 16.72 | 3,790,105 | 11.12 | 23,817,614 | 12.65 |
| U. S. Grade C | 223,112 | 0.512 | 1,278,199 | 1.783 | 1,942,248 | 4.99 | 1,36,842 | 1.282 | 3,880,401 | 2.06 |
| Below U. S. Grade | 17,586 | 0.040 | 172,625 | 0.251 | 122,961 | 0.316 | 98,052 | 0.288 | 42,824 | .22 |
| Total | 43,618,703 | 100.00 | 71,686,918 | 100.00 | 38,905,669 | 100.00 | 34,087,777 | 100.00 | 188,299,067 | 100.00 |
| Percent graded by months | | 23.17 | | 38.07 | | 20.66 | | 18.10 | | 100.00 |

WORKMANSHIP DEFECTS

| Grade Classification | Total Pounds | | Workmanship Defects | Percent Workmanship Defects |
|----------------------|--------------|---------------------|---------------------|-----------------------------|
| | Total Pounds | Workmanship Defects | | |
| U. S. Grade AA | 108,348,687 | 3,012,435 | | 2.8 |
| U. S. Grade A | 51,834,141 | 3,603,909 | | 6.9 |
| U. S. Grade B | 23,817,614 | 1,572,564 | | 6.6 |
| U. S. Grade C | 3,880,401 | 1,027,214 | | 26.5 |
| Below U. S. Grade | 42,824 | 42,640 | | 10.2 |

Prepared by: Standardization and Program Development Branch
Dairy Division, AMS, USDA
Washington, D. C. -- May, 1958



